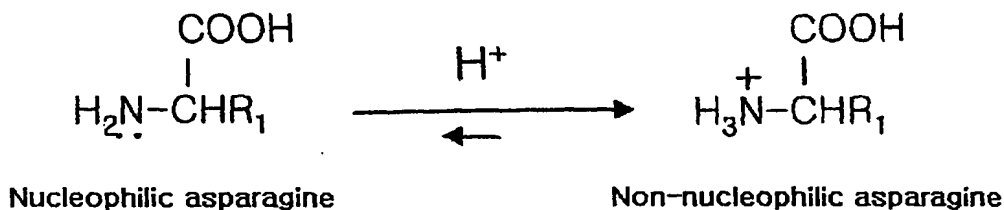


## WHAT IS CLAIMED IS:

1. A method for the reduction of acrylamide formation, comprising the step of protonating a nucleophilic  $\alpha$ -amino group ( $-\text{NH}_2$ ), thereby converting into a non-nucleophilic amine ( $-\text{NH}_3^+$ ), as shown in the following Scheme 2:

Scheme 2



, wherein  $\text{R}_1$  is  $-\text{CH}_2-\overset{\text{O}}{\parallel}{\text{C}}-\text{NH}_2$

10

2. The method of Claim 1, wherein the protonation of the nucleophilic amino group is carried out by treatment with a pH-lowering agent.
3. The method of Claim 2, wherein the pH-lowering agent is used for the treatment of foods or food ingredients.

15

4. The method of Claim 3, wherein the treatment foods or food ingredients with the pH-lowering agent is carried out before subjecting the foods to heat treatment.

5. The method of Claim 4, wherein the treatment foods or food ingredients with the pH-lowering agent is preformed by adding, mixing, spraying or soaking.

6. The method of Claim 4, wherein the heat treatment is selected from the group consisting of frying, baking, roasting, high temperature extrusion, and high temperature injection.

7. The method of Claim 3, wherein the foods contain at least one selected from the group consisting of amino acids, sugars and carbonyl compounds.

10

8. The method of Claim 7, wherein the foods are carbohydrate foods.

9. The method of Claim 3, wherein the treatment of the foods with the pH-lowering agent is conducted such that the pH of the foods or food ingredients is 0.1-3.0 units lower than the intrinsic pH of the foods or food ingredients.

15

10. The method of Claim 3, wherein the pH-lowering agent is added to the foods or food ingredients at a concentration of 0.001-10.0%.

20

11. The method of Claim 3, wherein the pH-lowering agent is selected from the group consisting of organic acid or its salt, buffer solution containing the organic acid or its salt, inorganic acid or its salt, buffer solution containing the inorganic acid or its salt, fruit juice, and a mixture thereof.

12. The method of Claim 11, wherein the organic acid is selected from the group consisting of citric acid, malic acid, acetic acid, lactic acid, succinic acid, tartaric acid, ascorbic acid, and adipic acid.

5           13. The method of Claim 11, wherein the inorganic acid is selected from the group consisting of phosphoric acid, hydrochloric acid, sulfuric acid and pyrophosphoric acid.

14. The method of Claim 11, wherein the salt of inorganic acid is  
10   monosodium phosphate or monopotassium phosphate.

15. The method of Claim 11, wherein the buffer solution is selected from the group consisting of sodium phosphate buffer solution, potassium phosphate buffer solution, citric acid-sodium citrate buffer solution, and citric acid-sodium  
15   phosphate buffer.

16. The method of Claim 11, wherein the fruit juice is selected from the group consisting of lemon juice, plum juice, apricot juice, orange juice, citron juice and lime juice.